Cross Content Connections

Through the review of the Maine *Learning Results*, the Maine Department of Education has sought to improve the clarity and coherence of the standards and to focus on the essential knowledge and skills that will prepare all Maine students for success in college, career and citizenship. The explicit identification of connections among the standards of the eight content areas and between the standards and the Guiding Principles is an important component of this work.

Learning experiences that require integration of ideas across content areas replicate the application of knowledge and skills that students will encounter in the workplace and life. Recognizing significant connections between and among content areas is a first step in providing instructional experiences that will prepare students for success.

Literature on student learning suggests that curriculum designed to focus on content connections leads to greater student engagement (Brazee and Capelluti, 1995). Additionally data from schools that use integrative approaches to instruction show marked improvements in student achievement (Klentschy, 1999). For these reasons, it is important that schools capitalize on significant points of connection among the content areas. As a first step, it is essential that teachers understand the student expectations outlined across content areas in the standards of the Maine *Learning Results*, especially those parts of the standards that mutually support student learning across content areas, and that teachers share information about instruction with educators from other content areas.

Integration Models

Various models exist for curriculum design focused on integration. Though the models differ in the specific details, they commonly identify a continuum of integration. The following two continua (A and B) serve as examples. Schools interested in developing integrated curricula would benefit from gaining an understanding of existing models and associated literature.

Example A

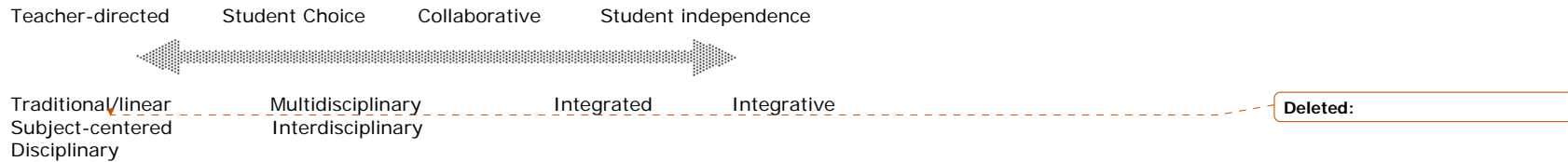Integration through correlation between subjects ➤ Integration through common themes and ideas ➤ Integration through the practical resolution of issues and problems ➤ Integration through student-centered inquiry

[Integrated Curriculum and Teaching Continuum (adapted from Brown & Nolan, 1989]

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Example B

Teacher-directed   Student Choice   Collaborative   Student independence

Traditional/linear   Multidisciplinary   Integrated   Integrative | Deleted: |
Subject-centered   Interdisciplinary
Disciplinary

[Ted Hutchins, 2006 (Grandview School, Red Deer, Alberta]
http://www.rdpsd.ab.ca/~ted_hutchings/Integration

The Use of the Cross Content Connections

This document can serve as a starting point for teachers to identify the bridges between what some educators have called the "silos" of the Maine *Learning Results*. As a next step, this document can serve as a starting point for conversations about a range of approaches to curriculum integration from subject-centered integration to student-centered integration.

This document highlights significant cross-content connections in the Maine *Learning Results*. **It is not and should not be perceived to be an exhaustive list of all connections among the content areas.** Throughout the document there are references to "grade level appropriate knowledge and skills". This phrase should be understood to mean those skills up to and including the achieved grade level or grade span of the student. Schools can use this list of connections as a guide to develop curriculum and classroom experiences that mutually support student knowledge and skills across content areas.

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Career and Education Development:

Deep connections exist from career and education development to every content area. These connections emphasize the importance of goal setting, decision-making and habits of mind with in the authentic contexts of learning other content areas and related school experiences. Beyond these connections, there are significant connections between the standards of career and education development and those of health education, social studies, and visual and performing arts.

Career and education development standards are not intended to promote stand-alone courses. In the same way that schools must coordinate a plan in which teachers provide experiences that require students to apply technology to develop knowledge/skills effectively, so too schools must coordinate a plan in which teachers embed the standards and performance indicators of career and education development into classroom experiences.

Students benefit from these connections when schools require teachers to:
- authentically integrate grade-level appropriate interpersonal skills into content area classes and school experiences to enhance learning and develop these skills,
- authentically integrate grade-level appropriate decision-making and goal-setting skills and habits of mind into content area classes and school experiences to enhance learning and develop these skills and behaviors,
- understand and integrate ideas about goal setting from career and education development into instruction about goal setting in health education,
- integrate grade level appropriate understandings about learning, work, the community, and the global economy into social studies instructional experiences related to history, civics and government, and the economy,
- integrate the knowledge and skills of career and education development into classroom experiences.

English Language Arts:

Deep connections exist from English language arts to every content area, and they underscore the importance of literacy in the development of knowledge and the communication of understanding.

Students benefit from these connections when teachers of English language arts provide instructional opportunities that require students to:

Significant integration with ALL CONTENT AREAS	- Use texts from across content areas to apply strategies for accessing informational texts - Use of texts from across content areas and digital tools to apply strategies for research/inquiry - Incorporate learning from across content areas to communicate knowledge and perspectives through expository writing - Incorporate knowledge and experiences across content areas as a context for demonstrating effective listening and speaking skills - Use all content areas as a context for developing vocabulary
Significant integration with career and education development	- Authentically integrate grade-level appropriate interpersonal skills into content area classes and school experiences to enhance learning and develop these skills, - Authentically integrate grade-level appropriate decision-making and goal-setting skills and habits of mind into content area classes and school experiences to enhance learning and develop these skills and behaviors,
Significant integration with health education and physical education	- Use texts from health education and physical education to apply strategies for accessing informational texts - Use texts from health education and physical education and digital tools to apply strategies for research/inquiry - Incorporate learning from across content areas to communicate knowledge and perspectives through expository writing - Incorporate knowledge and experiences across content areas as a context for demonstrating effective listening and speaking skills - Use health education and physical education as a context for developing vocabulary - Apply grade level appropriate knowledge about health education and physical education to the analysis of media
Significant integration with mathematics	- Use texts from mathematics to apply strategies for accessing informational texts - Use texts from mathematics and digital tools to apply strategies for research/inquiry - Incorporate learning from across content areas to communicate knowledge and perspectives through expository writing - Incorporate knowledge and experiences across content areas as a context for demonstrating effective listening and speaking skills - Apply effective strategies for connecting mathematics concepts to mathematics vocabulary - Use mathematics as a context for developing vocabulary

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Significant integration with science and technology	• Use texts from science and technology to apply strategies for accessing informational texts • Use texts from science and technology and digital tools to apply strategies for research/inquiry • Incorporate learning from across content areas to communicate knowledge and perspectives through expository writing • Incorporate knowledge and experiences across content areas as a context for demonstrating effective listening and speaking skills • Use science as a context for developing vocabulary • Analyzing roots and parts of words to predict meaning
Significant integration with social studies	• Use texts from social studies to apply strategies for accessing informational texts • Use texts from social studies and digital tools to apply strategies for research/inquiry • Incorporate learning from across content areas to communicate knowledge and perspectives through expository writing • Incorporate knowledge and experiences across content areas as a context for demonstrating effective listening and speaking skills • Use social studies as a context for developing vocabulary
Significant integration with visual and performing arts	• Integrate grade level appropriate understandings about plays in English language arts with understandings about theater • Apply grade level appropriate knowledge about visual and performing arts to the analysis of media • Use texts from visual and performing arts to apply strategies for accessing informational texts • Use texts from visual and performing arts and digital tools to apply strategies for research/inquiry • Incorporate learning from across content areas to communicate knowledge and perspectives through expository writing • Incorporate knowledge and experiences across content areas as a context for demonstrating effective listening and speaking skills • Use visual and performing arts as a context for developing vocabulary
Significant integration with world languages	• Integrate understandings about grammatical structures, syntax, pronunciation, idiomatic expressions and word meaning from world languages to better understand English • Use texts either written in a language other than English or containing information about world languages to apply strategies for accessing informational texts • Use texts from world languages and digital tools to apply strategies for research/inquiry • Incorporate learning from world languages to communicate knowledge and perspectives through expository writing • Incorporate knowledge and experiences from world languages as a context for demonstrating effective listening and speaking skills • Use world languages as a context for developing vocabulary about practices, products and perspectives of a culture
Significant integration of instructional	• Use technology to apply existing knowledge, generate new ideas and products, and express one's ideas creatively

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| technology
(Technology is included to insure that development of curriculum and classroom instruction includes the application of instructional technologies that assist students in learning in across content areas efficiently and effectively.) | • Use digital media and environments to communicate with multiple audiences utilizing a variety of sources
• Use digital media and environments to communicate and work collaboratively (including at a distance) in order to support individual learning and to develop global awareness by interacting with learners of other cultures
• Use appropriate technology and apply critical thinking skills to plan and conduct inquiry/research, manage projects, solve problems, and make informed decisions |

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Health Education and Physical Education:

Ideas from health education and physical education connect to ideas in all other content areas. Particularly significant connections exist between the standards of health education and physical education and those of English language arts, science and technology, and visual and performing arts.

Students benefit from these connections when teachers of health education and physical education provide instructional opportunities which require students to:

Significant integration with career and education development	• Authentically integrate grade-level appropriate interpersonal skills into content area classes and school experiences to enhance learning and develop these skills, • Authentically integrate grade-level appropriate decision-making and goal-setting skills and habits of mind into content area classes and school experiences to enhance learning and develop these skills and behaviors,
Significant integration with English language arts	• Apply grade level appropriate skills related to the analysis of media from English language arts to understand factors that influence health in health education. • Apply inquiry/research skills (as described in English language arts) and digital tools to answer questions and support ideas related to health education and physical education • Apply effective grade level appropriate reading strategies for understanding texts containing health education information • Communicate clearly and effectively the knowledge and skills related to health education through expository writing • Apply effective strategies for connecting concepts related to health education and physical education to vocabulary about health education and physical education • Use of vocabulary accurately to communicate ideas related to health education and physical education • Apply listening and speaking skills to comprehend and communicate ideas related to health education and physical education
Significant integration with mathematics	• Apply measurement to understand dimensions of playing surfaces, speeds, elapsed times, and weights • Apply descriptive statistics to understand summaries of performance or to make fitness decisions • Apply grade level appropriate understandings about algebraic models, data analysis, and presentation to understand displays and statistics that describe and summarize health issues • Apply probability to understand predictions of health risks
Significant integration with science and technology	• Integrate grade level appropriate understandings of motion and the human organism from science and technology to understand human movement in physical education and in dance • Integrate grade level appropriate understandings about cells, heredity and reproduction in science and technology with ideas about human growth and development in health education • Integrate grade level appropriate ideas about environmental health from health education with ideas about science,

	technology and society from science and technology
Significant integration with social studies	• Integrate consumer economics with understanding about factors that influence health [Add to Social Studies] • Integrate community health with social studies
Significant integration with visual and performing arts	• Apply dance as a context for understanding motion in physical education
Significant integration with world languages	
Significant integration of instructional technology (Technology is included to insure that development of curriculum and classroom instruction includes the application of instructional technologies that assist students in learning in across content areas efficiently and effectively.)	• Use technology to apply existing knowledge, generate new ideas and products, and express one's ideas creatively • Use digital media and environments to communicate with multiple audiences utilizing a variety of sources • Use digital media and environments to communicate and work collaboratively (including at a distance) in order to support individual learning and to develop global awareness by interacting with learners of other cultures • Use appropriate technology and apply critical thinking skills to plan and conduct inquiry/research, manage projects, solve problems, and make informed decisions

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Mathematics:

Quantitative understanding is important across many content areas. Particularly significant connections exist the standards of mathematics and those of English language arts, science and technology, social studies, and visual and performing arts.

Students benefit from these connections when teachers of mathematics provide instructional opportunities which require students to:

Significant integration with career and education development	• Authentically integrate grade-level appropriate interpersonal skills into content area classes and school experiences to enhance learning and develop these skills, • Authentically integrate grade-level appropriate decision-making and goal-setting skills and habits of mind into content area classes and school experiences to enhance learning and develop these skills and behaviors,
Significant integration with English language arts	• Apply inquiry/research skills (as described in English language arts) and digital tools to answer mathematical questions and support ideas about mathematics • Apply effective grade level appropriate reading strategies for understanding and solving mathematics problems and understanding and using mathematics texts • Communicate mathematics knowledge and skills clearly and effectively through expository writing • Apply effective strategies for connecting mathematics concepts to mathematics vocabulary • Use vocabulary accurately to communicate ideas related to mathematics • Apply listening and speaking skills to comprehend and communicate mathematical ideas
Significant integration with health education and physical education	• Integrate grade level appropriate measurement skills within activities for health education and physical education • Apply descriptive statistics and data analysis to summaries of performance or fitness • Use functions to model effects in physical education and health education such as calorie use, spread of disease, and various rates • Use probability to prediction and evaluate health risks
Significant integration with science and technology	• Apply grade level appropriate data analysis skills using data collected during scientific inquiry • Integrate grade level appropriate measurement skills within activities for science and technology • Compare grade level appropriate ideas about mathematical models to the grade level appropriate ideas of models developed in science and technology classes • Apply grade level appropriate understandings about algebraic functions to data from science and technology classes. • Compare steady rates of change developed in mathematics (Algebra 6- D (6.16, 7.11, 8.13, 9D.11,9D.12) to ideas about constancy and change which include cyclic change found in Science and Technology classes (*Math 3.12, 4.13, 4.14, 5.15, 5.16, 6.16*) • Evaluate formulas used in science classes • Use mathematical descriptions of scale changes in one, two, and three dimensions to understand effects on scale changes in physical setting and the living environment

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	• Apply number formats appropriate to the areas of science being studied and the grade span of instruction, especially scientific notation and the application of accuracy and precision
Significant integration with social studies	• Apply grade level appropriate data analysis skills using information related to economics and demographics in social studies • Create function models, where appropriate to the grade span, to predict financial results and population growth and graph economic factors, such as demand curves or profit • Apply grade level appropriate mathematics and data analysis skills to describe voting patterns and voting power, interpret polling data, and analyze political strategies • Apply grade level appropriate data analysis skills using data collected during the process of understanding, evaluating, and taking action in social studies research
Significant integration with visual and performing arts	• Apply music and visual arts examples in the development of grade level appropriate understandings about patterns, proportions, fractions, and geometry • Integrate grade level appropriate measurement skills within activities for visual and performing arts
Significant integration with world languages	
Significant integration of instructional technology (Technology is included to insure that development of curriculum and classroom instruction includes the application of instructional technologies that assist students in learning in across content areas efficiently and effectively.)	• Use technology to apply existing knowledge, generate new ideas and products, and express one's ideas creatively • Use digital media and environments to communicate with multiple audiences utilizing a variety of sources • Use digital media and environments to communicate and work collaboratively (including at a distance) in order to support individual learning and to develop global awareness by interacting with learners of other cultures • Use appropriate technology and apply critical thinking skills to plan and conduct inquiry/research, manage projects, solve problems, and make informed decisions Use appropriate technology to plan and conduct inquiry/research (including exploring the limits of mathematics), manage projects (including managing large and repeated calculations), solve problems (including developing spreadsheets), and make informed decisions applying critical thinking skills

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Science and Technology:

Ideas in science and technology connect to ideas in all other content areas. Particularly significant connections exist between the standards of science and technology and those of English language arts, health education, mathematics, social studies, and visual and performing arts**.**

Students benefit from these connections when teachers of science and technology provide instructional opportunities which require students to:

Significant integration with career and education development	• Authentically integrate grade-level appropriate interpersonal skills into content area classes and school experiences to enhance learning and develop these skills, • Authentically integrate grade-level appropriate decision-making and goal-setting skills and habits of mind into content area classes and school experiences to enhance learning and develop these skills and behaviors,
Significant integration with English language arts	• Apply inquiry/research skills (as described in English language arts) and digital tools to answer questions and support ideas related to science and technology • Apply effective grade level appropriate reading strategies for understanding texts containing scientific and technological information • Clearly and effectively communicate knowledge and skills related to science and technology through expository writing • Apply listening and speaking skills to comprehend and communicate ideas related to science and technology • Use of vocabulary accurately to communicate ideas related to science and technology • Apply effective strategies for connecting concepts related to science and technology to vocabulary about science and technology • Analyzing roots and parts of words to predict meaning
Significant integration with health education and physical education	• Integrate ideas about human growth and development in health education with understandings about cells, heredity and reproduction in science and technology. • Integrate grade level appropriate understandings of motion and the human organism in science and technology with human movement in physical education and dance • Integrate grade level appropriate ideas about environmental health from health education with ideas about science, technology and society from science and technology
Significant integration with mathematics	• Apply grade level appropriate measurements skills and knowledge in mathematics to data collection in science, including conversion with in systems by grade 6 and among systems by grade 8 and grade level, and the appropriate use of scientific notation • Apply grade level understandings about algebraic models, including change and functions, to appropriate data, especially data related to the physical setting and populations

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	• Apply grade level appropriate understandings of proportionality and scale to science concepts such as density, the Earth/Moon/Sun relationship, and changes in size • Apply grade level appropriate understandings about data analysis, statistical data, and sampling from mathematics to data collection and analysis, and the nature of science • Compare grade level appropriate knowledge about models from mathematics to grade level appropriate knowledge about models from science and technology • Apply grade-level appropriate use of evaluation of formulas to understand the physical setting and living environment • Create grade-level appropriate mathematical models to describe populations over time • Use grade-level appropriate mathematics to describe relationships (e.g. distance, velocity, and acceleration or force and energy
Significant integration with social studies	• Apply grade level appropriate knowledge of geography to enhance understandings about the Earth and biodiversity • Integrate grade level appropriate understandings about history to the development of scientific advances and technological development • Integrate understandings about systems in science with systems in social studies
Significant integration with visual and performing arts	• Apply observation skills developed through visual and performing arts to data collection and observation in science and technology
Significant integration with world languages	
Significant integration of instructional technology (Technology is included to insure that development of curriculum and classroom instruction includes the application of instructional technologies that assist students in learning in across content areas efficiently and effectively.)	• Use technology to apply existing knowledge, generate new ideas and products, and express one's ideas creatively • Use digital media and environments to communicate with multiple audiences utilizing a variety of sources • Use digital media and environments to communicate and work collaboratively (including at a distance) in order to support individual learning and to develop global awareness by interacting with learners of other cultures • Use appropriate technology and apply critical thinking skills to plan and conduct inquiry/research, manage projects, solve problems, and make informed decisions

Social Studies:

Ideas from social studies connect to ideas in all other content areas. Particularly significant connections exist between the standards of social studies and those of English language arts, mathematics, science and technology, visual and performing arts, and world languages.

Students benefit from these connections when teachers of social studies provide instructional opportunities which require students to:

Significant integration with career and education development	• Authentically integrate grade-level appropriate interpersonal skills into content area classes and school experiences to enhance learning and develop these skills, • Authentically integrate grade-level appropriate decision-making and goal-setting skills and habits of mind into content area classes and school experiences to enhance learning and develop these skills and behaviors,
Significant integration with English language arts	• Apply inquiry/research skills (as described in English language arts) and digital tools to answer questions and support ideas related to social studies • Apply effective grade level appropriate reading strategies for understanding texts containing social studies information • Clearly and effectively communicate knowledge and skills related to social studies through expository writing • Apply effective strategies for connecting concepts related to social studies to vocabulary about social studies • Apply listening and speaking skills to comprehend and communicate ideas related to social studies • Use of vocabulary accurately to communicate ideas related to social studies
Significant integration with health education and physical education	• Integrate grade level appropriate ideas about community health from health education with ideas about social studies • Integrate factors that influence health with ideas related to consumer economics
Significant integration with mathematics	• Apply grade level appropriate understandings about algebraic models and data analysis and presentation to understand data about populations, economics, and economic trends • Apply an understanding of function models, where appropriate to the grade span, to predict financial results and population growth and graph economic factors such as demand curves or profit • Apply grade level appropriate mathematics and data analysis skills to describe voting patterns and voting power, interpret polling data, and analyze political strategies • Apply grade level appropriate data analysis skills using data collected during the process of understanding, evaluating, and taking action in social studies research
Significant integration with science and technology	• Integrate grade level appropriate understandings of geography with understandings about biodiversity and the Earth • Integrate grade level appropriate knowledge of history with understandings about scientific advances and technological development • Integrate understandings about systems in social studies with systems in science

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Significant integration with visual and performing arts	• Integrate grade level appropriate understandings of history with understandings about the arts, their history and world cultures from visual and performing arts
Significant integration with world languages	• Integrate grade level appropriate understandings about culture, connections, and communities in world languages into the study of civics and government and history
Significant integration of instructional technology (Technology is included to insure that development of curriculum and classroom instruction includes the application of instructional technologies that assist students in learning in across content areas efficiently and effectively.)	• Use technology to apply existing knowledge, generate new ideas and products, and express one's ideas creatively • Use digital media and environments to communicate with multiple audiences utilizing a variety of sources • Use digital media and environments to communicate and work collaboratively (including at a distance) in order to support individual learning and to develop global awareness by interacting with learners of other cultures • Use appropriate technology and apply critical thinking skills to plan and conduct inquiry/research, manage projects, solve problems, and make informed decisions

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Visual and Performing Arts:

The four diverse disciplines of the visual and performing arts create connections to every content area from the visual and performing arts. These diverse connections underscore the essential role that the arts can play in providing authentic and engaging contexts for learning.

Students benefit from these connections when teachers of visual and performing arts provide instructional opportunities which require students to:

Significant integration with career and education development	• Authentically integrate grade-level appropriate decision-making and goal-setting skills and habits of mind into content area classes and school experiences to enhance learning and develop these skills and behaviors,
Significant integration with English language arts	• Apply inquiry/research skills (as described in English language) and digital tools arts to answer questions and support ideas related to visual and performing arts • Apply effective grade level appropriate reading strategies for understanding texts containing visual and performing arts information • Clearly and effectively communicate knowledge and skills related to visual and performing arts through expository writing • Apply effective strategies for connecting concepts related to visual and performing arts to vocabulary • Apply grade level appropriate knowledge about visual and performing arts to the analysis of media as described in English language arts • Use vocabulary accurately to communicate ideas related to visual and performing arts • Apply listening and speaking skills to comprehend and communicate ideas related to visual and performing arts • Integrate grade level appropriate understanding about plays in English language arts with understandings about theater
Significant integration with health education and physical education	• Integrate grade level appropriate knowledge of motion from physical education with understandings about dance
Significant integration with mathematics	• Apply grade-level appropriate ideas about number, patterns, and fractions to understand music • Integrate grade-level appropriate geometry, pattern, proportion, and scale concepts with the understanding of perspective in visual arts
Significant integration with science and technology	• Apply observation skills developed through visual and performing arts to data collection and observation in science and technology
Significant integration with social studies	• Integrate grade level appropriate understandings about of history with understandings about the arts, their history and world cultures from visual and performing arts
Significant integration with world languages	• Integrate grade level appropriate understandings about products and perspectives of culture from world languages with understandings about the arts, their history and world cultures from visual and performing arts
Significant integration of instructional	• Use technology to apply existing knowledge, generate new ideas and products, and express one's ideas creatively

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technology (Technology is included to insure that development of curriculum and classroom instruction includes the application of instructional technologies that assist students in learning in across content areas efficiently and effectively.)	• Use digital media and environments to communicate with multiple audiences utilizing a variety of sources • Use digital media and environments to communicate and work collaboratively (including at a distance) in order to support individual learning and to develop global awareness by interacting with learners of other cultures • Use appropriate technology and apply critical thinking skills to plan and conduct inquiry/research, manage projects, solve problems, and make informed decisions

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World Languages:

Ideas from world languages connect to ideas in all other content areas. Particularly significant connections exist between the standards of world languages and those of English language arts, social studies, and visual and performing arts.

 Students benefit from these connections when teachers of world languages provide instructional opportunities which require students to:

Significant integration with career and education development	• Integrate grade level appropriate interpersonal skills into world languages classes to enhance language acquisition and cultural understanding • Integrate grade level appropriate decision-making and goal-setting skills, and habits of mind in world language classes to enhance world language learning
Significant integration with English language arts	• Apply inquiry/research skills (as described in English language arts) and digital tools to answer questions and support ideas related to world languages • Apply effective grade level appropriate reading strategies for understanding texts either written in a language other than English or containing information about world languages • Clearly and effectively communicate knowledge and skills related to world languages through expository writing • Apply effective strategies for connecting concepts related to world languages to vocabulary about practices, products and perspectives of a culture • Use vocabulary accurately to communicate ideas either related to world languages or in a language other than English • Apply listening and speaking skills to comprehend and communicate ideas either related to world languages or in a language other than English • Integrate understandings about grammatical structures, syntax, pronunciation, idiomatic expressions and word meaning from English language arts to better understand world languages • Apply media analysis from English language arts to understand ideas contained in resources in a language other than English
Significant integration with health education and physical education	
Significant integration with mathematics	
Significant integration with science and technology	
Significant integration with social studies	• Integrate grade level appropriate knowledge and skills related to geography, economics, history, and civics and government with connections to knowledge about other content areas and about culture

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Significant integration with visual and performing arts	• Integrate grade level appropriate knowledge and skills related to products and perspectives of culture from world languages with understandings about the arts, their history and world cultures from the visual and performing arts
Significant integration of instructional technology (Technology is included to insure that development of curriculum and classroom instruction includes the application of instructional technologies that assist students in learning in across content areas efficiently and effectively.)	• Use technology to apply existing knowledge, generate new ideas and products, and express one's ideas creatively • Use digital media and environments to communicate with multiple audiences utilizing a variety of sources • Use digital media and environments to communicate and work collaboratively (including at a distance) in order to support individual learning and to develop global awareness by interacting with learners of other cultures • Use appropriate technology and apply critical thinking skills to plan and conduct inquiry/research, manage projects, solve problems, and make informed decisions

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